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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,723	11/09/2001	Hajime Tabata	505-914P	5858

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EXAMINER

NOLAN, DANIEL A

ART UNIT PAPER NUMBER

2654

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

09/986,723

**Applicant(s)**

TABATA ET AL.

**Examiner**

Daniel A. Nolan

**Art Unit**

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-12 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 5-8, 13-16 and 21-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09 November 2001.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because the details of figures 7(a) and 7(b) are not addressed in the specification.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:
  - "4c" (figures 5 & 6) are not explained.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "34" (in figure 1) has been used to designate both "electrode" and "bushing" (§0034).
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description:
  - "40" is not depicted (5<sup>th</sup> line from end §0054).
5. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing

should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification, such as:

- The word "or" should be "and" (2<sup>nd</sup> line ¶0003).
- "Accommodating" (¶0022) should be "carrying" (see 1<sup>st</sup> line ¶0060).
- "Prolonged" should be "extended" (¶0023 & ¶0061, last line).

7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

- The term "rises sharply" (claims 9 and 17) is not described in the specification.

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

“Speech Communication with Gain Control for Clear Communication”.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 9 and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not disclose any criteria that would enable a person of ordinary skill to establish the condition for “*a signal that rises sharply*” (3<sup>rd</sup> line from end claim 9, 4<sup>th</sup> from end claim 17) that would satisfy the requirement of the claims.

The Examiner is proceeding with the understanding that the term is relative and will be satisfied by any apparently abrupt increase.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Allen et al & Williamson III**

12. Claims 1, 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al (U.S. Patent 5,526,419 A) in view of Williamson III (U.S. Patent 5,369,711 A).

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13. Regarding claim 1 and claims 9 and 17 as understood by the Examiner, Allen et al, with the invention for *background noise compensation in a telephone set*, reads on the features of the claim for a *speech communication apparatus* as follows:

- Allen et al reads on the features of a *speech communication microphone* (13m in figure 1),
- Allen et al reads on the feature of a *speaker* (13s in figure 1) and a *communication unit for amplifying an output signal from the speech communication microphone* (46 in figure 4, 59 in figure 7, 25' in figure 9),
- Allen et al reads on the feature of the *speech communication microphone and the speaker being fixedly disposed in the vicinity of a mouth and an ear of an individual, respectively* (column 2 lines 48-50),
- Allen et al reads on the feature of the *communication unit amplifying an input signal and outputting the input signal so amplified* (59 in figure 7),
- With regard to claims 1 and 17, Allen et al reads on the feature *for controlling the gain of the amplifying means in response to an excessive input signal* (44→49 in figure 8).
- With regard to claims 1, 9 and 17, Allen et al reads on the feature *for controlling the gain of amplifying in response to an input signal which rises sharply* (BK→P in figure 6),
- Apart from the internal *release times* used to determine the necessity for gain control, Allen et al does not disclose actively prolonging gain suppression for a



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predetermined period of time. Williamson III, with the invention for *automatic gain control for a headset*, reads on the feature where the *control means controls the gain of the amplifying means such that a reproduced sound of an excessive input signal is reduced to a predetermined level only for a predetermined period of time when the excessive input signal is detected* (claim 9 lines 32-38).

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Allen et al to the device/method of Williamson III to keep the suppressor from appearing to generate static by consolidating concurrent loudness during rapidly changing input levels.

**Allen et al, Williamson III & Kono**

14. Claims 2, 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al in view of Williamson III and further in view of Kono (Japan Patent 09-097095).

15. Regarding claims 2, 10 and 18; the claims are set forth with the same limitations as claims 1, 9 and 17, respectively. Neither Allen et al nor Williamson III speak to recognizing sternutation. Kono, with the invention for speech recognition using a rejection threshold for handling incorrect spoken sound such as a cough, reads on the feature where the *control means controls the gain of the amplifying means by detecting an input signal corresponding to sneeze or cough* (2<sup>nd</sup> line ¶0011).

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It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Kono to the device/method of Allen et al or Williamson III for safety, to permit urgent, loud vocalizations to be transmitted to warn of emergencies.

**Allen et al, Williamson III & Yamaguchi et al**

16. Claim 3, 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al in view of Williamson III and further in view of Yamaguchi et al (U.S. Patent 5,751,822 A).

17. Regarding claims 3, 11 and 19; the claims are set forth with the same limitations as claims 1, 9 and 17, respectively. Neither Allen et al nor Williamson III speak to *varying the suppression duration*. Yamaguchi et al, with the invention for an *ambient noise suppression circuit*, reads on the feature *for varying the predetermined period of time* (column 8 lines 5-19), which has the period of suppression time changing with response to speech. It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method and/or teachings of Yamaguchi et al to the device/method of Allen et al nor Williamson III to have the gain control in effect for the duration of speech/noise.

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**Allen et al, Williamson III, Kono & Yamaguchi et al**

18. Claims 4, 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al in view of Williamson III and further in view of Kono and further in view of Yamaguchi et al.

19. Regarding claims 4, 12 and 20; the claims are set forth with the same limitations as claims 2, 10 and 18, respectively. The features of the claim are the same as those found in claims 3, 11 and 19, and the claims are rejected for the same reasons.

***Allowable Subject Matter***

20. Claims 5-8, 13-16 and 21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

21. The following is a statement of reasons for the indication of allowable subject matter:

- The present invention is directed to *voice/speech in vehicular intercom communications*.
- Claims 5-8, 13-16 and 21-24 identify the uniquely distinct feature " where the *predetermined period of time is set at a range from 0.7 to 5 seconds both inclusive*. "

The closest prior art, Wong *et al.*, discloses a circuit that disregards quick, sharp noises such as a cough, hand clap, book dropping or the like during a listening time of 0.5 – 0.7 seconds, between intervals of 5 – 6 seconds (the off time) and so, the times being *exclusive*, fails to anticipate or render the above underlined limitations obvious.

22. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

### ***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hotvet (U.S. Patent 4,718,099 A) automatic gain control for hearing aid having set duration during which gain is repressed.
- Crane *et al.* (U.S. Patent Publication 2003/0083874 A1) non-target barge-in detection triggered by extended attack/release times.
- Shibuya *et al.* (Japan Patent 003-038460) cough sound detecting, measuring and counting.
- Wong *et al.* (U.S. Patent 5,365,219 A) conversation level warning device monitors conversation for excessive loudness.

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24. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Daniel A. Nolan at telephone (703) 305-1368 whose normal business hours are Mon, Tue, Thu & Fri, from 7 AM to 5 PM.

If attempts to contact the examiner by telephone are unsuccessful, supervisor Richemond Dorvil can be reached at (703)305-9645.

The fax phone number for Technology Center 2600 is (703)872-9314. Label informal and draft communications as "DRAFT" or "PROPOSED", & designate formal communications as "EXPEDITED PROCEDURE". Formal response to this action may be faxed according to the above instructions,

or mailed to:

P.O. Box 1450  
Alexandria, VA 22313-1450

or hand-deliver to: Crystal Park 2,  
2121 Crystal Drive, Arlington, VA,  
Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 Customer Service Office at telephone number (703) 306-0377.

Daniel A. Nolan  
Examiner  
Art Unit 2654

DAN/d  
August 5, 2004

  
RICHEMOND DORVIL  
SUPERVISORY PATENT EXAMINER